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*Pollution*

# A Century of Abuse Of Lake and Shoreline



436846



# While the Politicians Talked,

## the Lake Began to Die

Third of five parts  
By ROBERT W. ANDREWS

**F**irst came the splash, loud and frightening, as if a tidal wave were crashing against the shingles.

Then the white goo began to squish up through the heating registers.

Already, the cellar was filled with the thick liquid.

"We tried to call, but the phones went dead and the lights went out," Walter Pienkowski, then 17, recalled.

Outside, everywhere the Pienkowskis could see, the slime — as thick as tooth-

paste — poured off Allied Chemical Co.'s waste beds.

A wall 8 feet high buried State Fair Boulevard. Seven homes were inundated with the limy waste material. Fifty-two people were stranded. A square mile of the fairgrounds, then an Army Air Corps storage depot, was buried in the sloshy mess.

Once before, the dike that held back Allied's reservoir of waste had broken, but that time the material just flowed into the lake. This time, the wall broke on Lakeland's side.

"Everything was just white, the whole shebang. Nobody would attempt to walk out," Pienkowski said. "It was heavy like

ONONDAGA LAKE  
A  
*Paradise*  
• LOST? •

quicksand."

Next door, Mary Ribak saw her little dog, barking, covered with slime.

A guard at the fairgrounds reported in

some panic that, upon returning from touring the grounds, he saw his station house floating toward him. He turned, slipped and fell. His false teeth and service revolver, he said, were lost in the goo.

An Army vehicle was unable to make it through, but Lakeland gas station owner Walter Pope rescued the Pienkowskis by pulling his way through the slime in a canoe using a long rope and hand-over-hand technique.

Damage was extensive. The homes inundated were bulldozed. It took months to clear the State Fairgrounds. Every tree, shrub, bush and blade of grass within a square mile died.

What happened that day — Thanksgiving Day, 1943 — became one more signal to some people that conditions at Onondaga Lake had become intolerable.

Over the next few decades, an environmental movement would grow by fits and starts. Its rallying cry would be: Reclaim Onondaga Lake. And Allied Chemical Co. would be viewed as the enemy.

In allowing the lake to become a cesspool, however, there's enough blame to go around.

Politicians made shortsighted decisions. Engineers gave out bad advice. State agen-

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# Politicians<sup>③</sup> Talk While A Lake Dies

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cies failed to enforce state laws. Local officials cut deals allowing Allied to turn more and more shoreline into wasteland. Some of those same deals would allow the city of Syracuse to use Onondaga Lake as a toilet.

What follows is the story of how local leaders allowed the lake to become one of the most polluted bodies of water in the nation, and how a few environmental crusaders tried to save it.

## The Whitefish Disappear

From the start, it was the daily practice of Solvay Process Co. to dump its waste into the lake.

And there was a lot of it. For every two tons of soda ash it makes, the company ends up with about one ton of waste. About 500 tons a day were going into the lake at the turn of the century.

It did not take long for the fish to start dying. Perch, whitefish and many other freshwater fish disappeared from the lake between 1884 — the year Solvay Process Co. began producing soda ash — and 1900.

In 1885, the U.S. Fishing Commission reported commercial fishing in Onondaga Lake dropped from 20,000 pounds to 1,000 pounds in just one year.

In 1898 the tasty Onondaga Lake whitefish, which had appeared on the menus of restaurants along the East Coast, disappeared entirely.

F.R. Hazard, president of Solvay Process Co., assured a newspaper reporter in 1897, "The fishing in the lake has never been good, and we have no evidence it has become poorer."

Along with the fish went a thriving ice industry. In 1884 an editorial in the Syracuse Standard warned that the ice supply would be doomed by the company's discharges. In 1901, the state banned ice cutting in the lake because of impurities in the water.

During this time and well into the first decade of the 20th century, the resorts on the west shore of the lake prospered, but the end had already been written.

"Anyone with half a brain could see the potential for conflict," said Dennis Connors, director of Onondaga County museums. "Industrial pollution... infringes on the ability to swim at a resort."

## A View from the Fair

When wealthy Syracusans purchased a 100-acre farm in Solvay and donated it to the state in 1890, the site was considered perfect for the New York State Fair. Among its advantages were a fine view of Onondaga Lake and proximity to the west shore resorts.

Soon the view and the resorts would be gone, as Solvay Process's dumping moved from the southern end of the lake to the west shore. And the state would do little to stop the despoilment.

The state had a hard enough time stopping Solvay Process from pumping its waste into the lake.

In 1889, the state health board ordered a halt to "mining of refuse" into the lake, but the pollution continued. In 1901, the state and Solvay Process reached a deal that allowed the company to fill up 91 acres, much of it under water, along the south shore.

In 1907, the state attorney general threatened civil or criminal action if Solvay Process did not stop filling the lake. The company promised to limit its dumping to the shoreline. Still, an enormous amount of waste would continue to leach into the lake for decades.

But with the 1907 agreement, the company would need more and more space along the shoreline for dumping. At the same time, the city was looking for a place to dump the sewage sludge that would be produced by the treatment plant it was planning to build.

So, in 1920, the city and Solvay Process agreed city sewage sludge would be mixed with Solvay waste and dumped on the west shore land owned by the city.

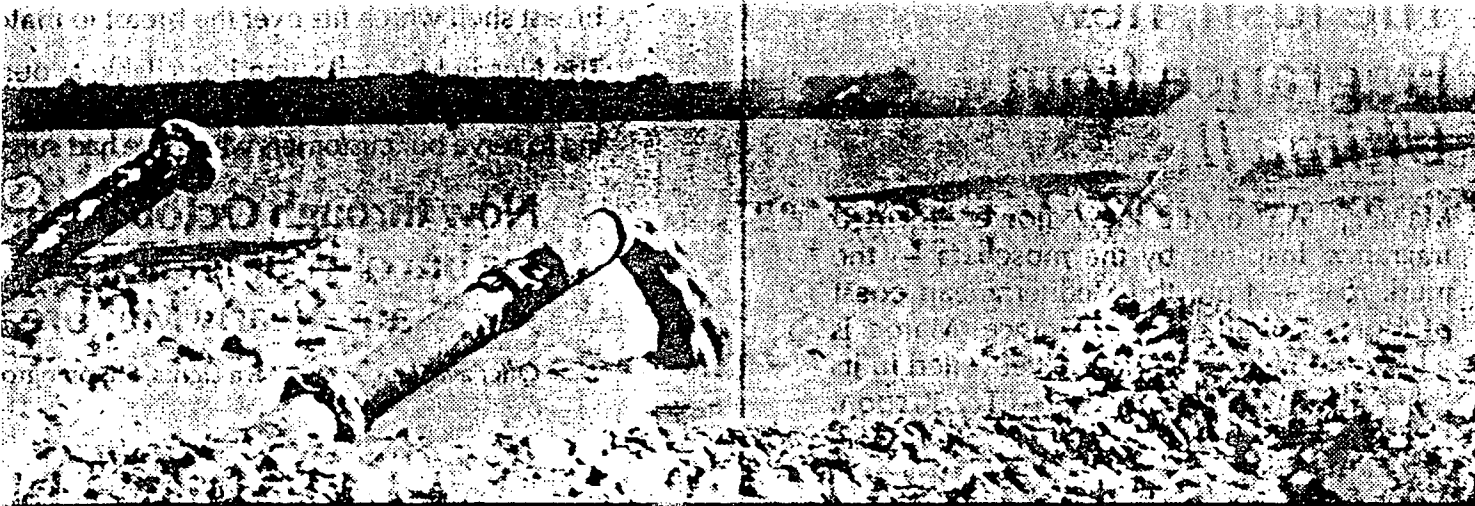
Three years later, Allied picked up some more land. The state sold former Erie Canal lands to the village of Solvay for \$38,440.40, and the village immediately turned it over to Allied, its largest taxpayer and employer, for \$1.

By 1926, the pile of waste on the west shore already was high enough to begin obstructing State Fair views of Onondaga Lake.

## What Syracuse Saw

Few articles in the newspapers took note of Solvay Process' activity.

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Allied's waste flows into the company's waste beds on the west shore of the lake. The beds have since been abandoned.

Yet, on Oct. 11, 1903, the Syracuse Post-Standard published a major article attempting to explain what was happening to the shoreline.

Headlines above the article tell a ludicrously optimistic story:

✓ "Acres and Acres of 'Bad Land' Being Reclaimed"

✓ "Solvay Refuse Accomplished Wonders in the West End"

✓ "Liquid Portion of Waste Found to be Excellent Germicidal Agent in Purifying Water"

✓ "Fish In Lake Not Injured"

Of course, the headlines were not accurate, but for most of Syracuse it was the first information they had about the shoreline dumping.

## Lake as Sewage System

Syracuse, in the 1890s, began to realize outdoor privies were not the way to dispose of human excrement. The city reportedly could be smelled for miles.

In 1896, the city council passed a law prohibiting the use of backyard privies. Sewers were built, with the effluent going into the lake by way of Onondaga Creek and Harbor Brook.

For a time, that was fine. A national engineering firm concluded in the 1920s that sedimentation was all the sewage treatment Syracuse needed. Sedimentation simply allowing the heavier material to then pumping everything else into

the lake. The heavier material then was mixed with Allied's waste and dumped along the west shore.

The crux of the engineer's report was that sewage would be oxidized before waters reached the Seneca River and "will necessarily be disposed of completely in the lake itself, that is, complete digestion must take place in the lake."

Unfortunately, that was not accurate.

## An Unlikely Trio

It was not until the 1940s that Syracuseans began organizing in an attempt to save the lake.

Walter Welch, now 85, was display director of the State Fair at the start of the decade. He watched as Allied's waste wall became higher and higher.

"I was keenly interested in the visual aspects of the lake," Welch said, "and the loss of the lake's beauty."

How, he wondered, could a community allow this despoilment to happen?

It was a time when there was talk of moving the fair from Solvay to Mattydale, partly because Solvay's environment was not as appealing.

The 1943 spill had a lot of people thinking, Welch said.

One group, the Lakeland Taxpayers Association, threatened suit against Allied for "longstanding and continuing crimes against the beauties of nature."

By 1943, Welch decided to take an active

role in a movement to clean up the lake.

During the next decade, three names became synonymous with that crusade: Welch, Crandall Melvin and William Maloney. They were men of some influence.

Melvin was president of Merchants Bank, head of a large law firm and a top figure in the Republican Party. Maloney was a Democrat and a real estate developer.

Together, they wrote letters, called meetings, issued press releases, gathered information for news articles, staged debates, filed lawsuits and lobbied for action against Allied. They formed the Onondaga Lake Reclamation Association, and they pressed for state action against Allied.

They met with Gov. Thomas Dewey during the campaign of 1946. Dewey called what Allied was doing to Onondaga Lake "the perfect outrage." No private corporation should be allowed to soil a community asset, Dewey reportedly told association leaders.

The governor told a newspaper the state would move tons of the sludge, build a parking lot and a highway — all part of a plan to expand the fairgrounds down to the shoreline.

Melvin, Maloney and Welch were optimistic.

After the election, however, word came from the attorney general's office that the governor's office was holding up action against Allied.

cal Co.'s reservoir of waste breaks on Thanksgiving, 1943. The waste inundated homes and buried the State Fairgrounds.

"No one ever told us why," Welch said about the governor's retreat. "We always suspected it was a matter of greater influence — Allied's influence being greater than ours — but we don't know."

## The Low Point

Onondaga Lake was at its worst in the 1950s.

Industrial waste of all sorts was being dumped there. Allied had just begun to dump mercury — 20 pounds a day — into the lake, and would do so until 1970.

The city had grown considerably since 1924, when its first treatment plant was built, and the plant was inadequate to handle the volume. To make matters worse, Ley Creek, which flows into Onondaga Lake, was becoming contaminated with organic chemicals from Bristol Laboratories' penicillin plant.

"The situation is now sufficiently acute to require immediate attention," warned the state health department in 1947.

Then came the real blow.

Workers at Allied went on strike in 1950, shutting down all the company's operations.

Syracuse, which had been enjoying the 1920 deal that allowed it to dispose of sludge at Allied's waste beds, was left with no place to dump the sludge from its treatment plant. So the city shut down the plant and again used Onondaga Lake as a toilet.

After the strike, the city thought it could go back to the 1920 deal. Allied was almost finished with its west shore beds and planned to use new beds in Geddes. The city invested \$80,000 in a line to the new beds, but Geddes passed a law prohibiting sludge from the city within town limits.

Raw sewage would go untreated into the lake for the next four years.

Bacteria levels were high at all times. Floating excrement was observed, often

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# Politicians, Environmentalists Debate the 'Perfect Pollution Solution'

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binding together to form "sludge rafts." Decomposing sludge produced sulfide and methane gas that could be smelled for miles and was particularly overwhelming in Liverpool. Algae decay added to the stench.

## The Sewage Plant Debate

Meanwhile, the politicians and engineers debated about a new sewage plant.

Should it be a city project or a county one? Should the Democratic mayor get the credit? What engineering firm should get the business? Should effluent be discharged into Onondaga Lake or piped to the outflow at the Seneca River? Who should pay?

By 1952, Maloney became so irritated that he filed a taxpayer suit to force construction of the plant.

Maloney, Melvin and Welch would be jolted by another announcement in 1953.

They would learn that New York state had quietly settled the claims pending from the 1943 sludge spill that poured millions of tons of waste over the fairgrounds. The damage was reported at the time to be in the millions of dollars.

The state agreed by the settlement not to press claims for damages, and in return

Allied gave the state 400 acres of abandoned waste beds on the west shore. Eventually, the state would use some of the land for Interstate 690, but most of it would remain a barren, white mountain.

"We felt betrayed and discouraged," Welch said. "All along, we knew that in going against Allied we were pushing against some mighty forces. Allied had a large payroll; they were making considerable money out there. They had friends and ability to influence decisions."

Onondaga County would construct a new plant at the city site in 1960, using more advanced technology. It provided the first real sewage treatment, but, by that time, federal rules had changed, and minimum sewage treatment was not enough to keep the lake clean.

As for Welch, Melvin and Maloney, they occasionally would dash off a letter to the editor, but mostly their spirit was gone.

"I wouldn't say any of us gave up, but it became an impossibility," Welch said. "Changing patterns. Growing older. You drop off when you don't succeed."

## 'Saltine Warrior' Sets Sail

Daniel Jackson, a little-known professor in Syracuse University's engineering department, picked up the assault.

In 1964, Jackson asked SU Chancellor William P. Tolley for help in the struggle to clean up the lake. Moved by Jackson's eloquence, Tolley agreed to his request for a boat. The 65-foot, floating laboratory would be called the "Saltine Warrior."

With that boat, Jackson gained visibility. Passengers included U.S. Secretary of Interior Stewart Udall, U.S. Sens. Jacob Javits and Robert Kennedy, Onondaga County Executive John Mulroy, other politicians and, always, the press.

Mulroy appointed Jackson to his Scientific-Economic Council in 1965. A year later, the council urged a \$25 million cleanup program, and Jackson leaped into the spotlight.

The council's program was dramatic and sweeping, and it included building a lagoon to handle sewage overflows on rainy days as well as construction of a new plant.

Mulroy balked at the plan, saying it was more expensive than Jackson claimed. Jackson accused Mulroy of "pussy-footing."

Jackson, now director of the Institute of Environmental Studies at Louisiana State University, said that from that time on, "all John and I did was spat. Probably I was too obnoxious."

## 'Pollution Solution'

Jackson joined forces with Samuel Sage, a chemist who had just founded a local chapter of the Sierra Club.

Their first issue: where should a new Metropolitan Sewage Treatment Plant be built?

Jackson and Sage wanted a plant at the outlet of the lake that would make the lake cleaner simply by expelling treated effluent into the river instead of the lake. They argued that the sewage would decompose faster in a fast-moving river than it would sitting in a lake.

Also, Jackson had a notion about putting algae-eating African organisms into the lake.

Neither of them liked the county's plan, developed by county Drainage and Sanitation Commissioner John Hennigan and strongly supported by Mulroy, for construction of a plant on the south shore and using Allied's waste — calcium specifically — to knock unwanted phosphates out of the sewage sludge.

This "perfect pollution solution" was abhorrent to environmentalists because it amounted to legitimizing Allied's calcium pollution of the lake.

For a decade, the fight went on. The

environmentalists caused delays, even forcing the county to do an environmental impact statement, one of the nation's first.

Every time Jackson issued a press release or called a news conference, Hennigan had to rush around — answer the claim in the media, then call legislators to make sure Jackson hadn't changed votes.

"I felt like Sir Galahad, riding all over the place on my white horse," Hennigan said.

It was a tough, bitter fight. To this day, Hennigan boils at the very mention of Jackson. "He was no civil engineer," Hennigan says. "He was a bug worshiper. His ideas were so bad, I just can't put into words how flaky that man was."

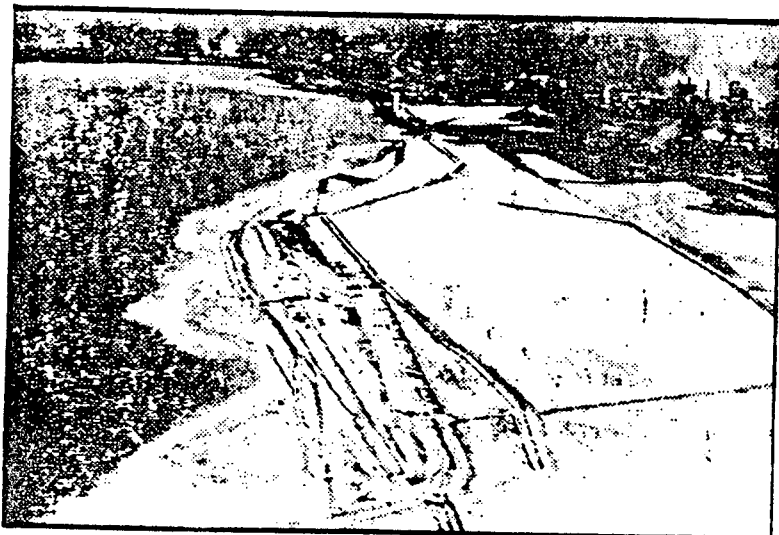
By 1979, the county's \$127 million Metropolitan Sewage Treatment Plant would open on the south shore of the lake.

And Hennigan would confidently tell a reporter, "Experts tell us that after a year or two of metropolitan operation, Onondaga Lake will be cleaned up."

Now, he concedes the lake is not yet clean. "It's improving," he insists. "It's not the black hole of Calcutta down there any more."

Tomorrow: A journey into the murky depths of the lake.

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Courtesy of the Onondaga Historical Association

Above, the west shore at its worst, before any vegetation would grow on Allied's waste beds. At right, County Executive John Mulroy tours the lake in the 1960s.



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## Polluters Rarely Caught Before 1970

By ROBERT W. ANDREWS

**I**t would be an exaggeration to say that a polluter could dump any chemicals it wanted into Onondaga Lake before 1970, but not much of one.

There was no U.S. Environmental Protection Agency, no state Department of Environmental Conservation.

"This county, or any other for that matter, was not acutely aware of pollution until the late '60s," said Jack Karanik, deputy county drainage and sanitation commissioner.

Before 1970, Onondaga Lake's waters were tested but, according to Karanik, the purpose was data collection, not enforcement. Mostly, the data was being gathered to justify construction of the county's sewage treatment plant.

In 1970, all that changed. EPA and DEC were created, and along with the agencies came the Clean Water Act. Companies were issued permits for pollution based on quantity limits. To get a permit, the polluting company had to draw up a timetable for elimination of its bad discharges.

Companies began to spend money on anti-pollution systems. Allied Chemical spent about \$15 million in the early '70s on water treatment systems alone.

Once the permit is issued, DEC has a right to bring court action for every violation. If it doesn't, private citizens can sue.

Samuel Sage, co-founder of the local Sierra Club and founder of the local Atlantic States Legal Foundation, said that despite its power, DEC hasn't done a very good job.

"The Clean Water Act was written to be simple to enforce. If a company is in violation of its permit, that's against the law . . . . The state wants to sit down and negotiate a compromise to get back on a compliance schedule. It's an engineering approach," Sage said.

He prefers the legal approach. His Atlantic States Legal Foundation has filed several suits, all of which are pending.

Lee Flocke, DEC's regional water quality engineer, said DEC's philosophy is changing. "Every time it hits the water, fine 'em," Flocke said about Allied's brine spills into Onondaga Creek.

Indeed, Allied has been fined \$48,000 for a series of spills, several of which resulted in massive fish kills, since 1984.

Of course, if a polluter doesn't obtain a permit, there's nothing Sage can do. There is an assumption that most of the big dischargers have been found, he said, but he added, "I don't really know what's going into Onondaga Lake."

"It is," he said, "basically a satisfactory system, although somewhat self-monitoring. That's a problem."

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## A Century of Abuse

**1884:**  
Solvay Process Co. begins production.

**1897:**  
Fishermen report something killing the perch in the lake. A year later, the Onondaga Lake whitefish disappear. Soon ice cutting is banned.

**1921:**  
Deal between the city and Solvay Process gives Solvay the right to use "the point" for waste disposal and allows the city to mix its sewage sludge with Allied waste in beds closer to city.

**1875**

**1900**

**1925**

**1899:**  
Privies prohibited in city of Syracuse. Sewers built with sewage flowing directly into creeks and the lake.

**1907:**  
State Attorney General's Office recommends civil or criminal action if Solvay Process does not stop dumping. Solvay Process agrees to dump only on shore, but much of the waste continues to leach into the lake.

**1924:**  
A treatment plant is built on the south shore after engineering report says sewage "will be oxidized before the waters of the lake reach the Seneca River."

**1943:**  
Allied's sludge wall breaks, sending tons of waste into Lakeland neighborhood and fairgrounds. Partly in response, trio of local leaders launch first local environmental movement.

**1950:**  
Raw sewage again flows into the lake. Allied strike leaves city with no landfill for its sewage, so the city closes its plant and pumps directly into the lake for next four years.

**1968:**  
Federal report classifies Onondaga Lake as most polluted body in Lake Ontario basin, saying Onondaga has been "literally used up."

**1978:**  
Onondaga County opens its long-awaited Metropolitan Sewage Treatment Plant. This, combined with phosphate detergent ban earlier, leads to reduction in phosphates.

**1950**

**1975**

**1947:**  
State report on lake pollution concludes problem is "sufficiently acute as to require immediate attention."

**1953:**  
Allied gives state 400 acres of waste beds for fair parking and Interstate 690. State agrees not to press claims against Allied for 1943 waste spill.

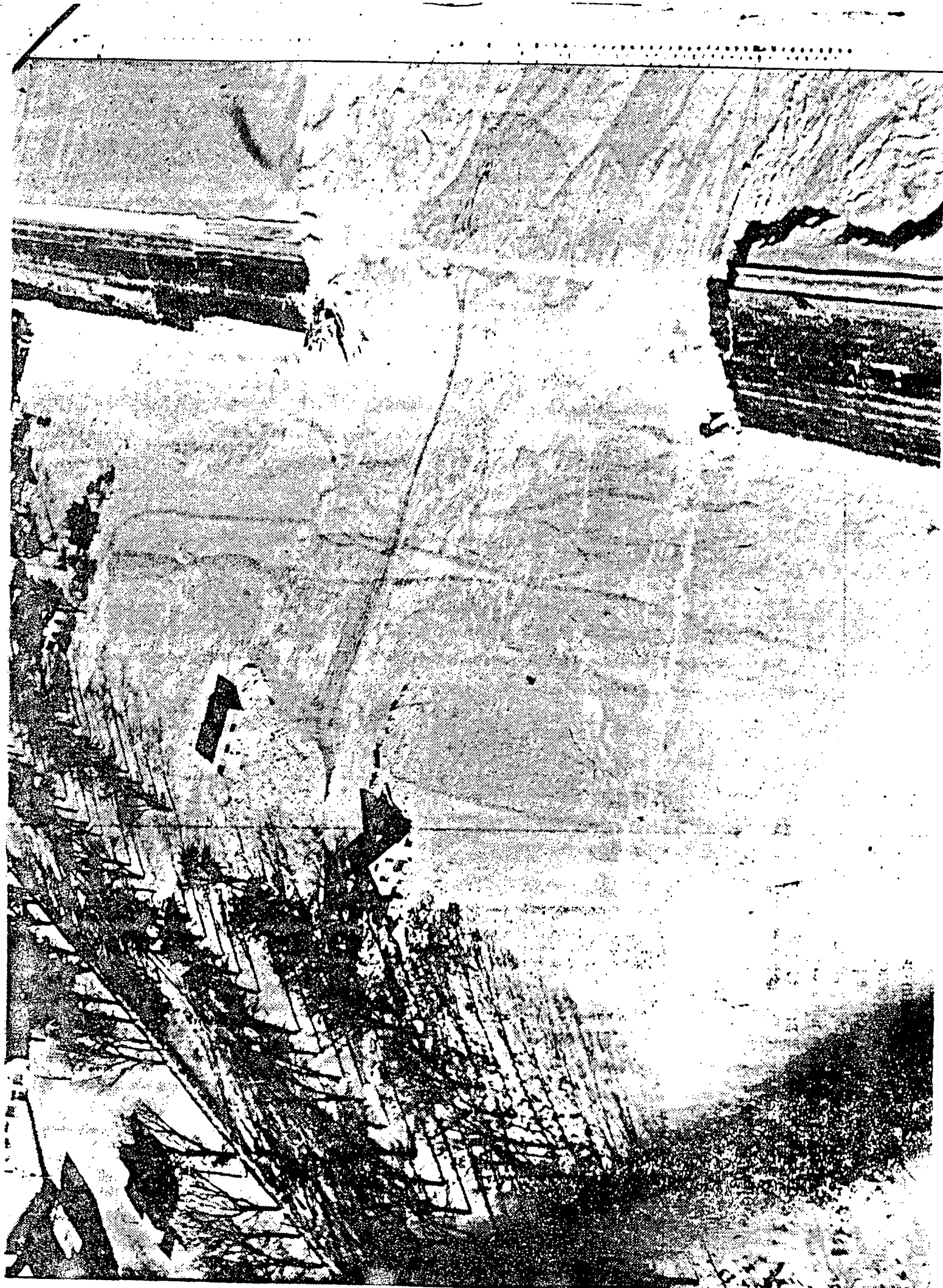
**1970:**  
U.S. Attorney General John Mitchell sues Allied to stop mercury dumping.

**1985:**  
Allied announces it will dismantle its Solvay operations within a year, leaving a grassy field.

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## Major Dischargers of Chemicals into Onondaga Lake

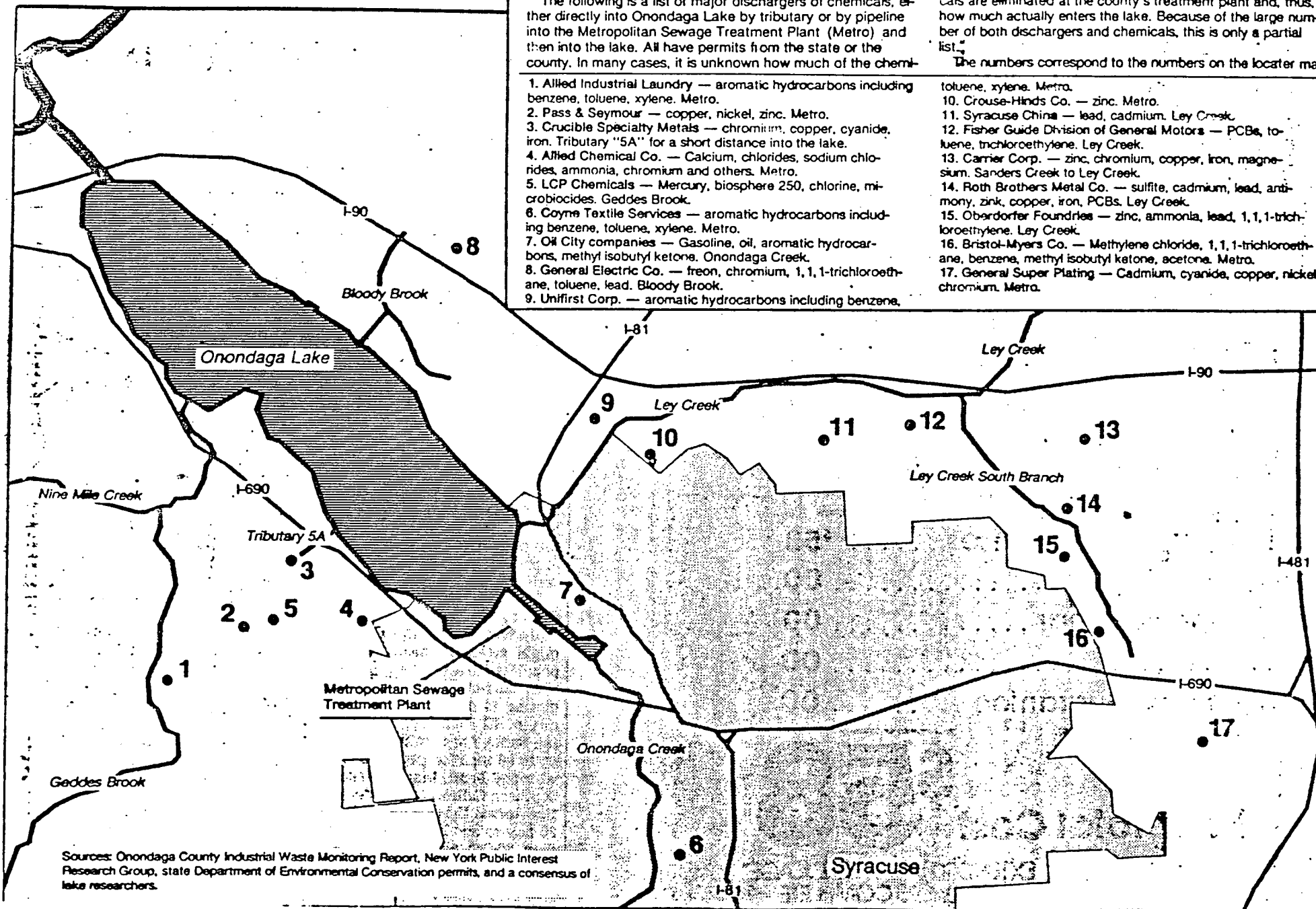
The following is a list of major dischargers of chemicals, either directly into Onondaga Lake by tributary or by pipeline into the Metropolitan Sewage Treatment Plant (Metro) and then into the lake. All have permits from the state or the county. In many cases, it is unknown how much of the chemi-

cals are eliminated at the county's treatment plant and, thus, how much actually enters the lake. Because of the large number of both dischargers and chemicals, this is only a partial list.

The numbers correspond to the numbers on the locator map.

1. Allied Industrial Laundry — aromatic hydrocarbons including benzene, toluene, xylene. Metro.
2. Pass & Seymour — copper, nickel, zinc. Metro.
3. Crucible Specialty Metals — chromium, copper, cyanide, iron. Tributary "5A" for a short distance into the lake.
4. Allied Chemical Co. — Calcium, chlorides, sodium chlorides, ammonia, chromium and others. Metro.
5. LCP Chemicals — Mercury, biosphere 250, chlorine, microbicides. Geddes Brook.
6. Coyne Textile Services — aromatic hydrocarbons including benzene, toluene, xylene. Metro.
7. Oil City companies — Gasoline, oil, aromatic hydrocarbons, methyl isobutyl ketone. Onondaga Creek.
8. General Electric Co. — freon, chromium, 1,1,1-trichloroethane, toluene, lead. Bloody Brook.
9. Unifirst Corp. — aromatic hydrocarbons including benzene,

- toluene, xylene. Metro.
10. Crouse-Hinds Co. — zinc. Metro.
11. Syracuse China — lead, cadmium. Ley Creek.
12. Fisher Guide Division of General Motors — PCBs, toluene, trichloroethylene. Ley Creek.
13. Carrier Corp. — zinc, chromium, copper, iron, magnesium. Sanders Creek to Ley Creek.
14. Roth Brothers Metal Co. — sulfite, cadmium, lead, antimony, zinc, copper, iron, PCBs. Ley Creek.
15. Oberdorfer Foundries — zinc, ammonia, lead, 1,1,1-trichloroethylene. Ley Creek.
16. Bristol-Myers Co. — Methylene chloride, 1,1,1-trichloroethane, benzene, methyl isobutyl ketone, acetone. Metro.
17. General Super Plating — Cadmium, cyanide, copper, nickel, chromium. Metro.



Sources: Onondaga County Industrial Waste Monitoring Report, New York Public Interest Research Group, state Department of Environmental Conservation permits, and a consensus of lake researchers.